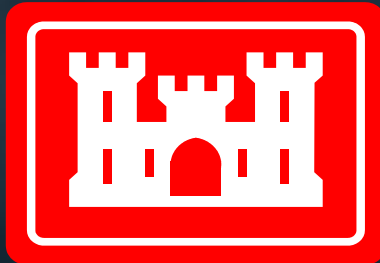


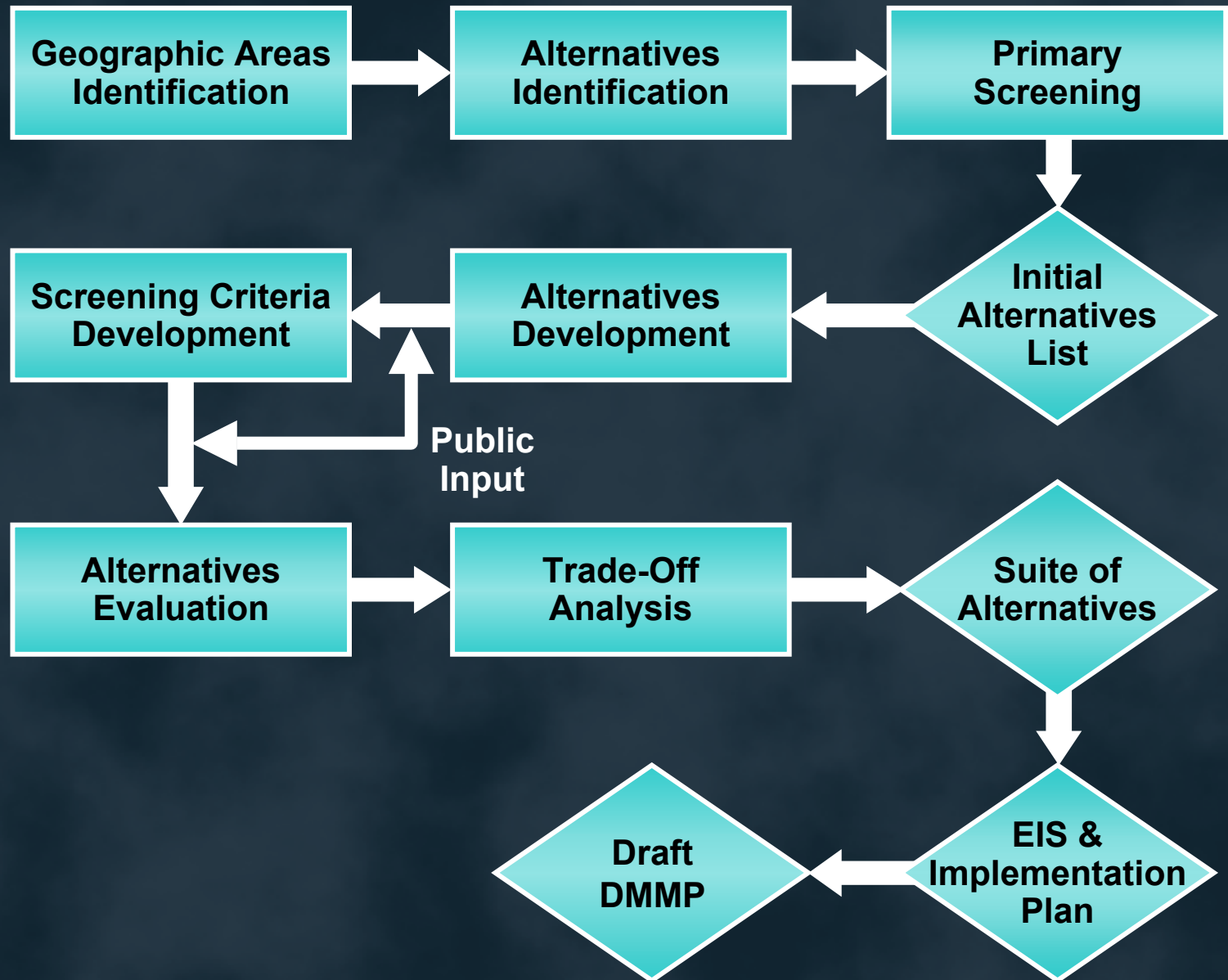
# U.S. Army Corps of Engineers, Baltimore District

## Port of Baltimore Dredged Material Management Plan

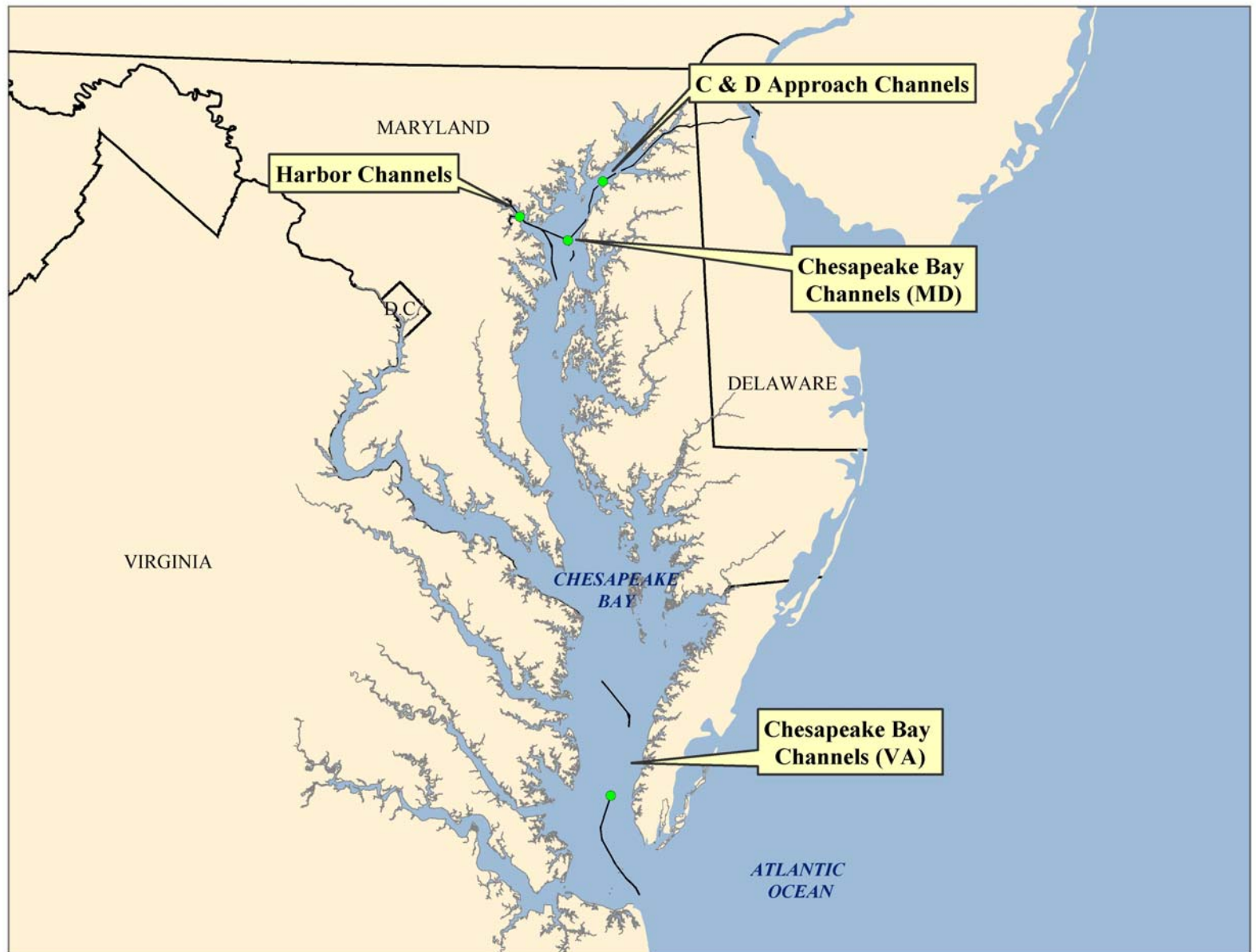
### Placement Alternatives



# ***DMMP Process Flow Chart***



# ***DMMP Geographic Area Boundaries***



# *Placement Alternatives Development*

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- All possible alternatives identified in each geographic areas
- Compiled the following information for each alternative
  - Relative Capacity
  - Relative Cost
  - Accessibility/Constructability
  - Operability
  - Impacts (Environmental, Recreational, Commercial, Residential, Regulatory)

# *Primary Level Alternatives Screening*

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- Eliminated alternatives that:
  - Did not provide for a beneficial use of “clean” dredged material
  - Involved Locations outside the Chesapeake Bay Watershed Area



# *Placement Alternatives Definitions*

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- Existing Site Expansion/Optimization
  - Creation of additional capacity at existing placement sites by expanding the site either vertically or horizontally or by operational modifications
- Large Island Restoration
  - Restoration of a previously existing large island (> 200 acres) to a historic size and restoring habitat
- Small Island Restoration
  - Restoration of a previously existing small island (< 200 acres) to a historic size and restoring habitat

# *Placement Alternatives*

## *Definitions (cont'd)*

---

- Artificial Island Creation
  - Creation of an island where none historically existed and creating habitat
- Wetlands Restoration
  - Restoration of a degraded wetland through the use of thin-layering or other techniques
- Shoreline Restoration
  - Restoration and/or protection of a degraded shoreline

# *Placement Alternatives*

## *Definitions (cont'd)*

- Beach Nourishment
  - Use of dredged material to expand and/or enhance an existing beach to provide storm protection, recreation, etc.
- Agricultural Placement
  - Amendment of agricultural soils with dredged material to improve drainage and crop yield
- Mines and Quarries
  - Placement of dredged material for reclamation of mines or quarries



# *Placement Alternatives*

## *Definitions (cont'd)*

---

- Capping

- Use of dredged material to cap existing contaminated sites, either aquatic or landfills

- Building Products

- Use of dredged material to create products such as bricks, aggregate, fill material, etc.

- Ocean Open Water Placement

- Placement of dredged material in open water sites in the Atlantic Ocean near the mouth of the Chesapeake Bay

# *Placement Alternatives*

## *Definitions (cont'd)*

- New Confined Disposal Facility (CDF)
  - Applicable only to harbor material within the North Point-Rock Point Line
  - Creation of a new upland confined disposal site for dredged material
- New Confined Aquatic Disposal (CAD) Site
  - Applicable only to harbor material within the North Point-Rock Point Line
  - Creation of a new confined disposal site in the bay for dredged material

# *Placement Alternatives Development Process*

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- Utilized ARC IMS to identify potential locations
- Applied constraints according to nature of alternative, such as
  - Infrastructure
  - Population Density
  - Land Use
  - Environmental Considerations
  - Etc.

### Legend

- Shoreline 1840 to 1860
- SAV
- Historic Oyster Bars
- Oyster Restoration Sites

Baltimore Harbor; Craighill Entrance

Chester River

# *C&D Approach Channels Placement Alternatives*

- Pooles Island Open Water Site Expansion
- Poplar Island Expansion
- C&D Canal Upland Sites Expansion
- Large Island Restoration
- Small Island Restoration
- Artificial Island Creation
- Shoreline Restoration
- Wetlands Restoration
- Agricultural Placement
- Ocean Open Water Placement
- Capping
- Mine Placement
- Building Products



# *Harbor Channels Placement Alternatives*

- Hart-Miller Island Expansion
- C&D Canal Upland Sites Expansion
- Cox Creek Expansion
- Large Island Restoration
- Small Island Restoration
- Artificial Island
- Shoreline Restoration
- Wetlands Restoration
- New Confined Disposal Area
- New Confined Aquatic Disposal Area
- Agricultural Placement
- Mine Placement
- Building Products

# *Chesapeake Bay Approach Channels (MD) Placement Alternatives*

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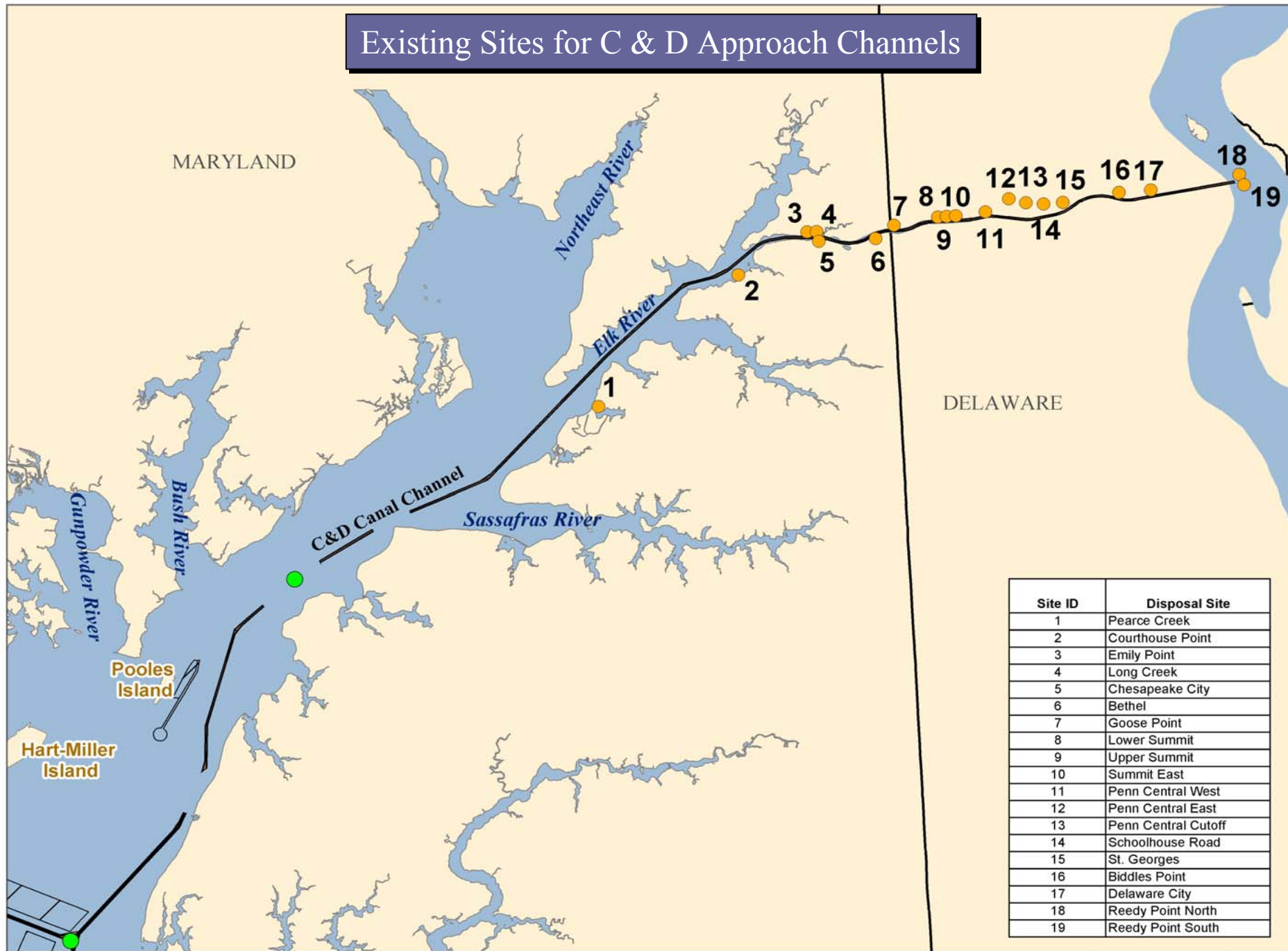
- Pooles Island Open Water Site Expansion
- Poplar Island Expansion
- Large Island Restoration
- Small Island Restoration
- Artificial Island
- Shoreline Restoration
- Wetlands Restoration
- Agricultural Placement
- Ocean Open Water Placement
- Capping
- Mine Placement
- Building Products

# *Chesapeake Bay Approach Channels (VA) Placement Alternatives*

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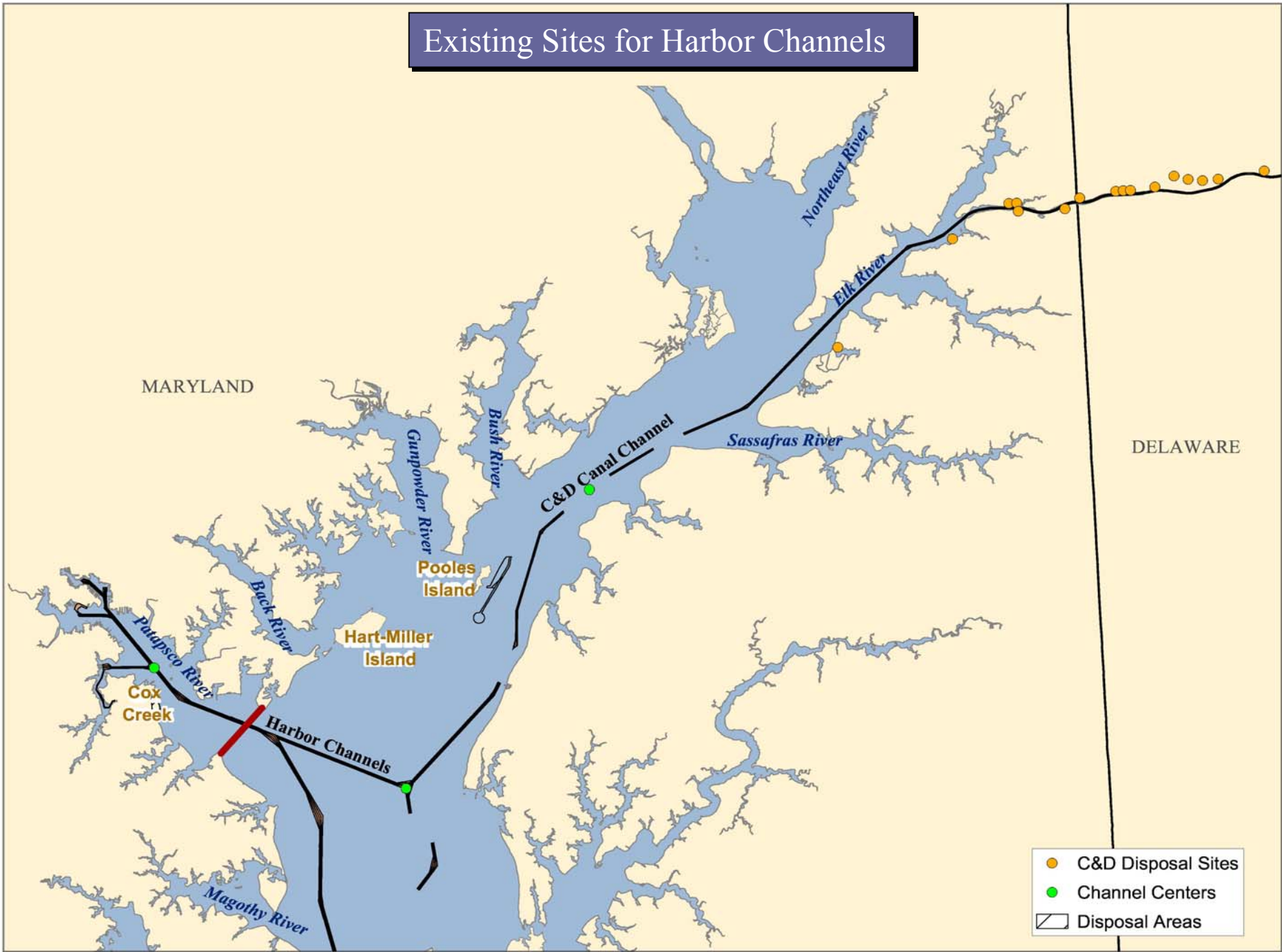
- Norfolk Ocean Open Water Placement
- Dam Neck Open Water Placement
- Wolf Trap Open Water Placement
- Rappahannock Open Water Placement
- Large Island Restoration
- Small Island Restoration
- Artificial Island
- Shoreline Restoration
- Wetlands Restoration
- Beach Nourishment
- Agricultural Placement
- Mine Placement
- Building Products

## Existing Sites for C & D Approach Channels



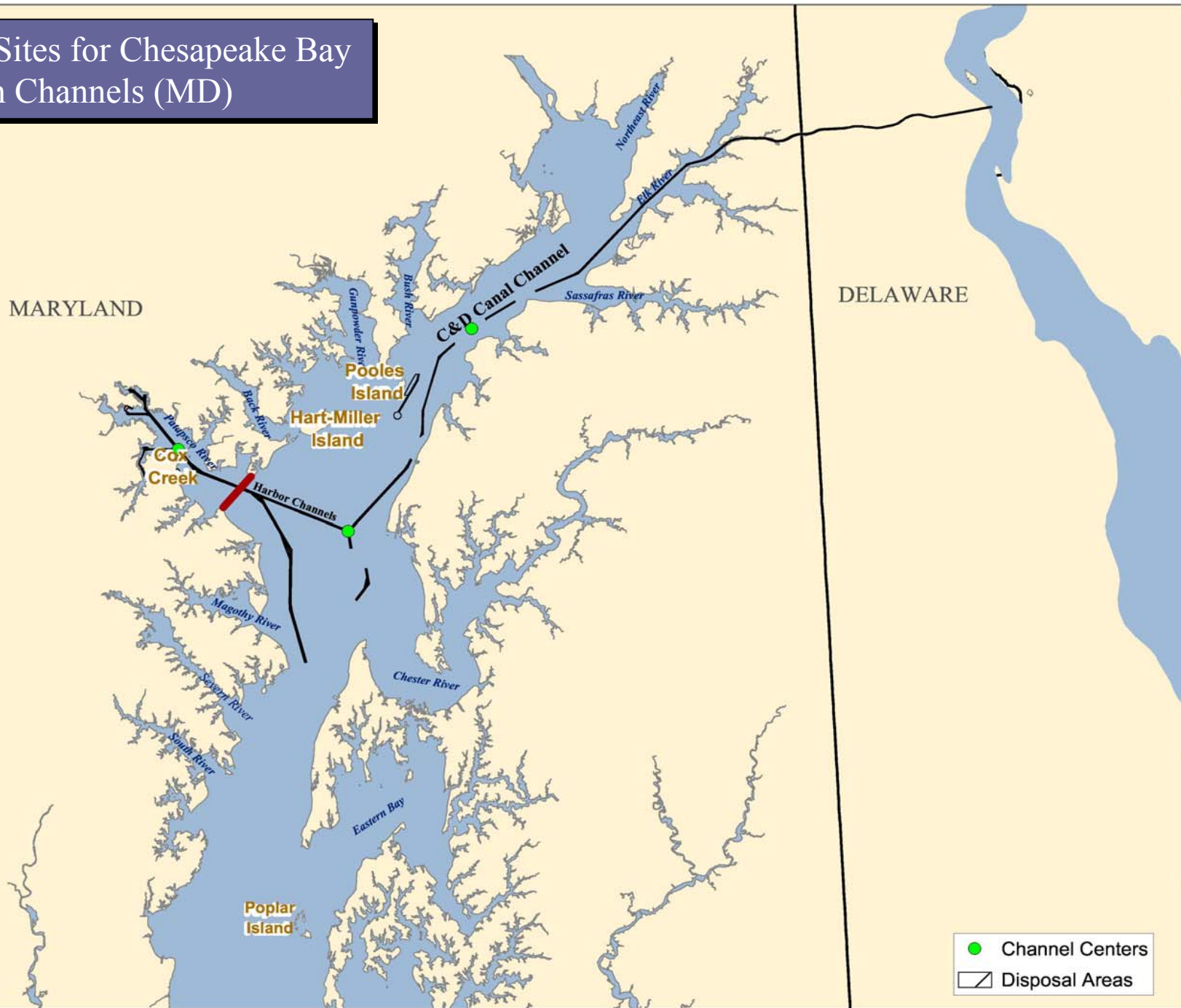


# Existing Sites for Harbor Channels

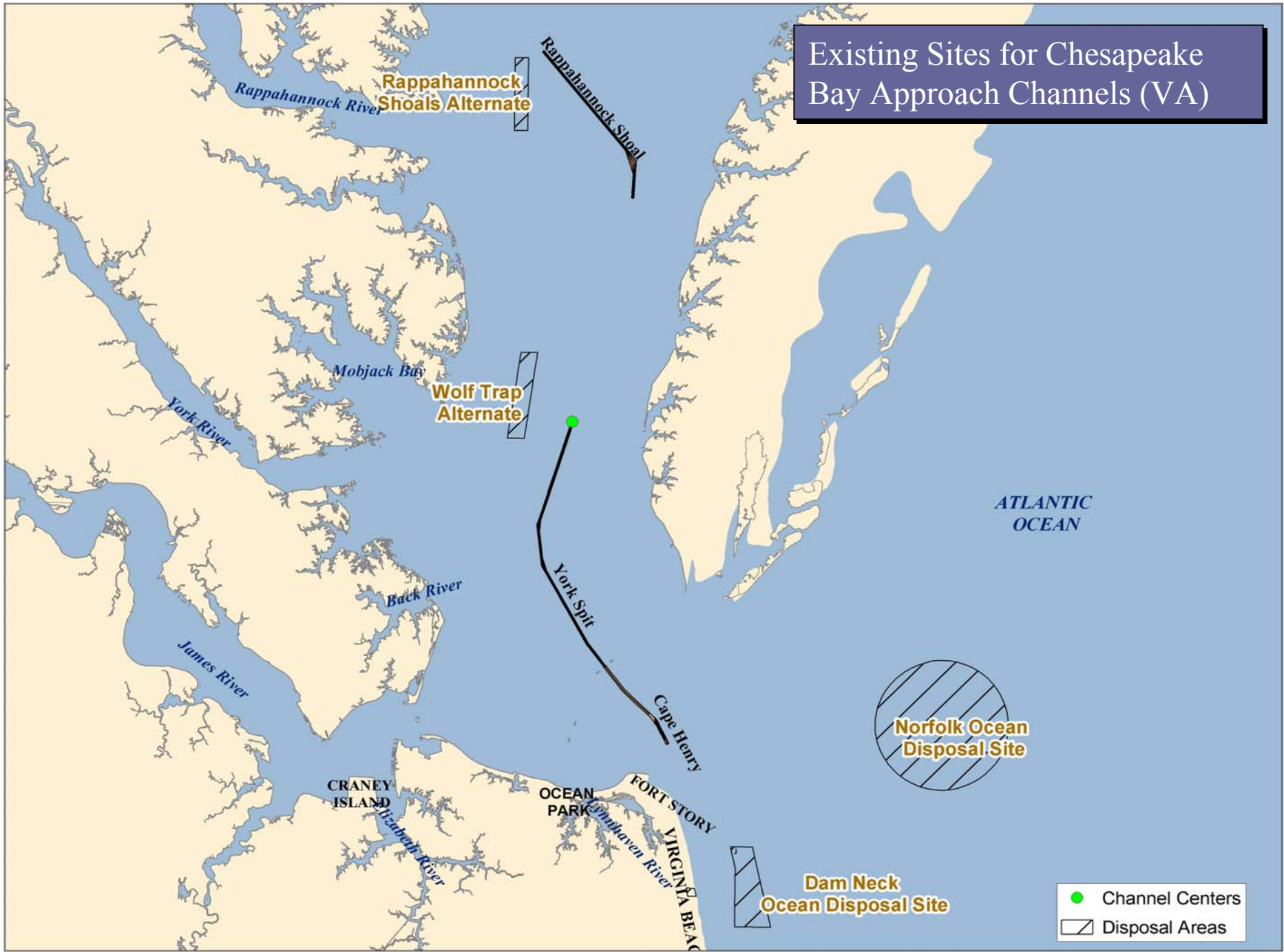




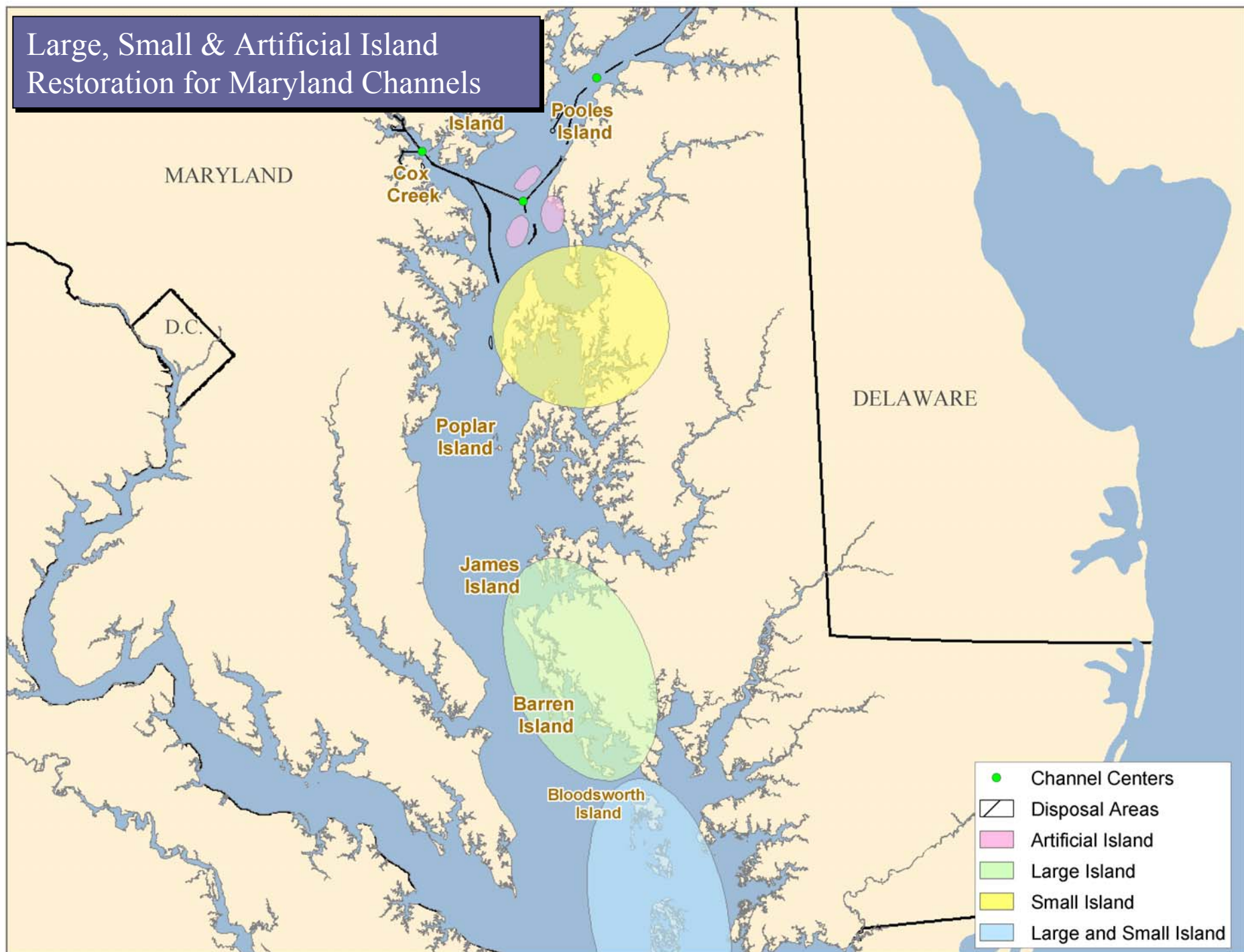
# Existing Sites for Chesapeake Bay Approach Channels (MD)



# Existing Sites for Chesapeake Bay Approach Channels (VA)

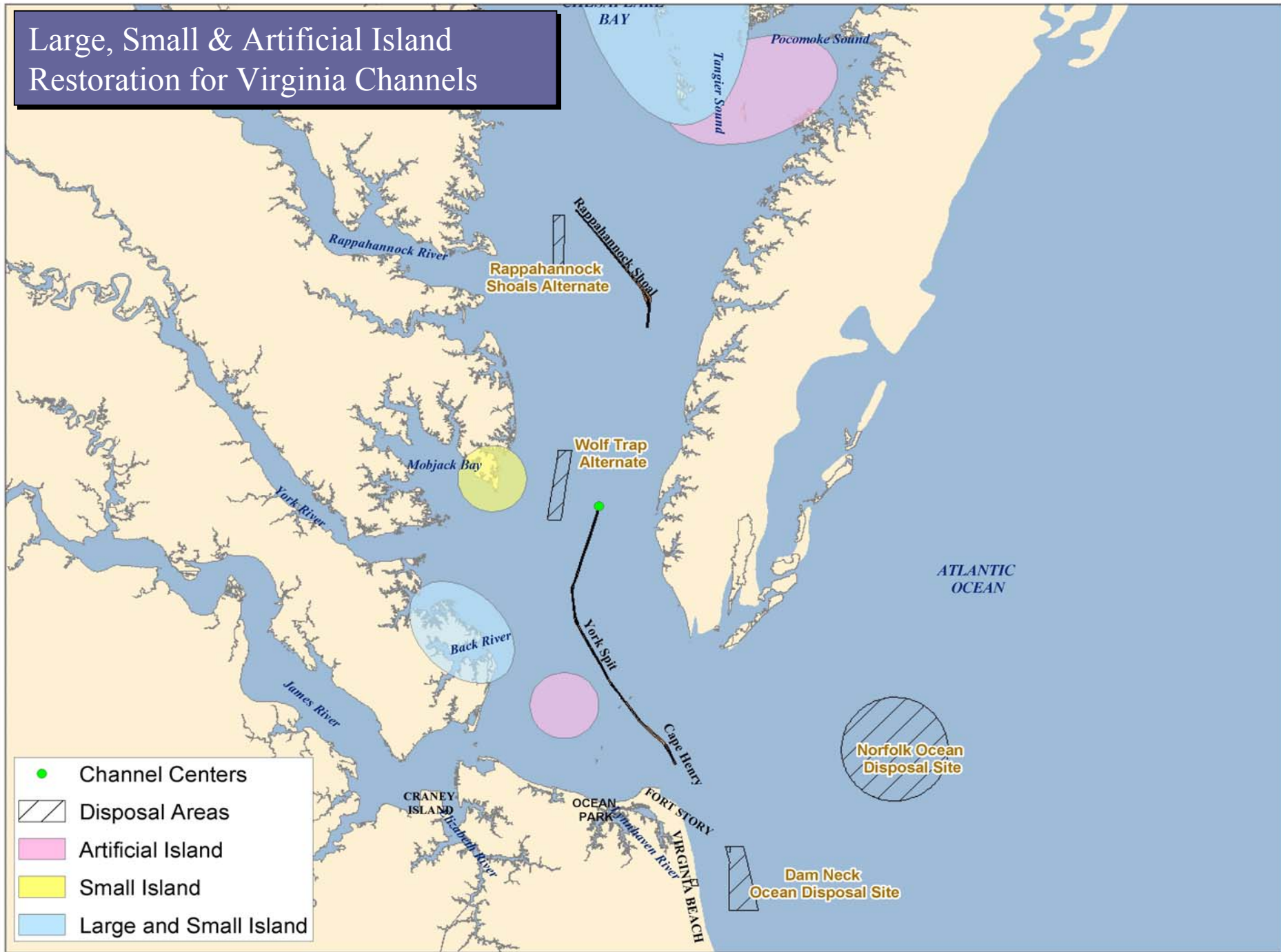


# Large, Small & Artificial Island Restoration for Maryland Channels





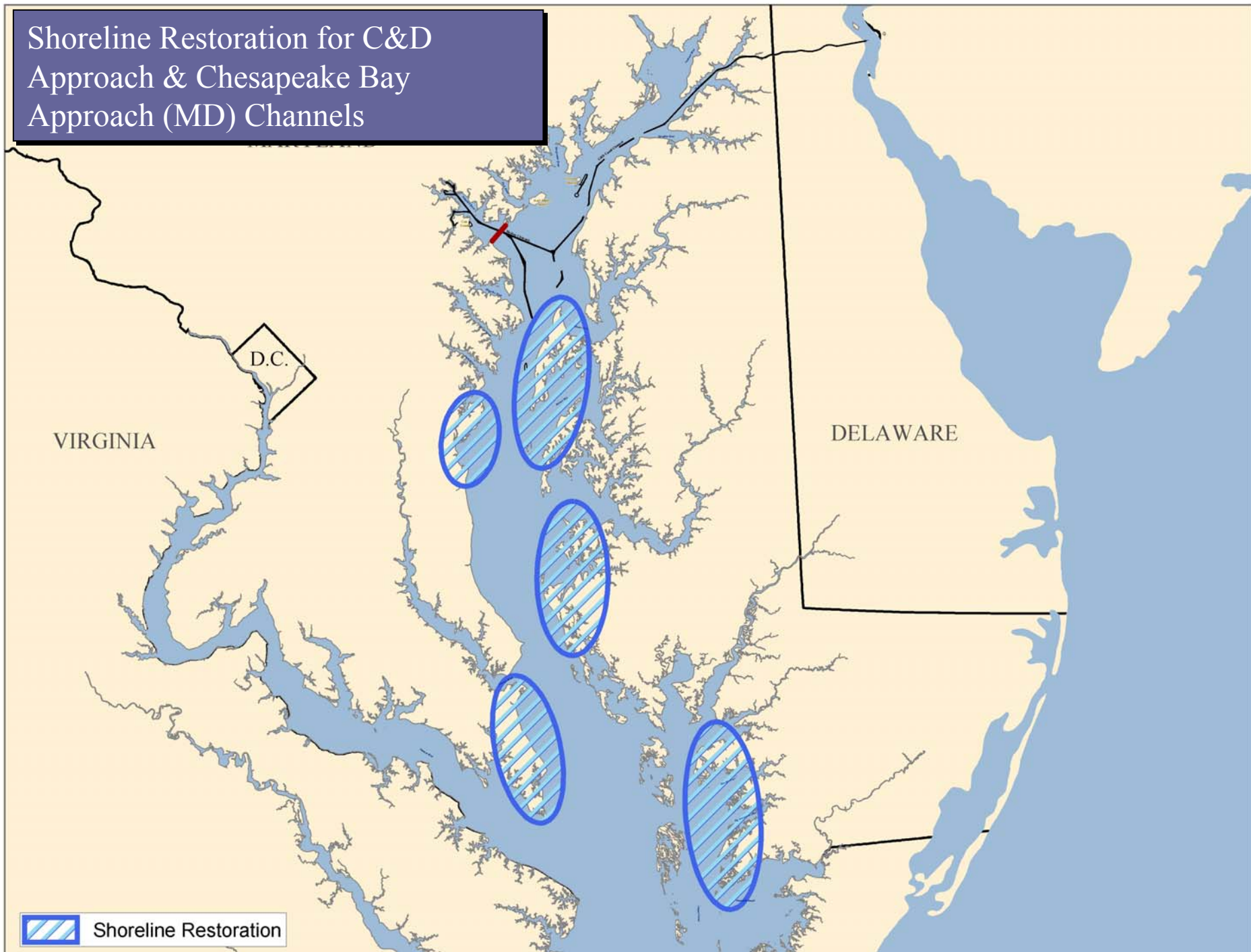
# Large, Small & Artificial Island Restoration for Virginia Channels



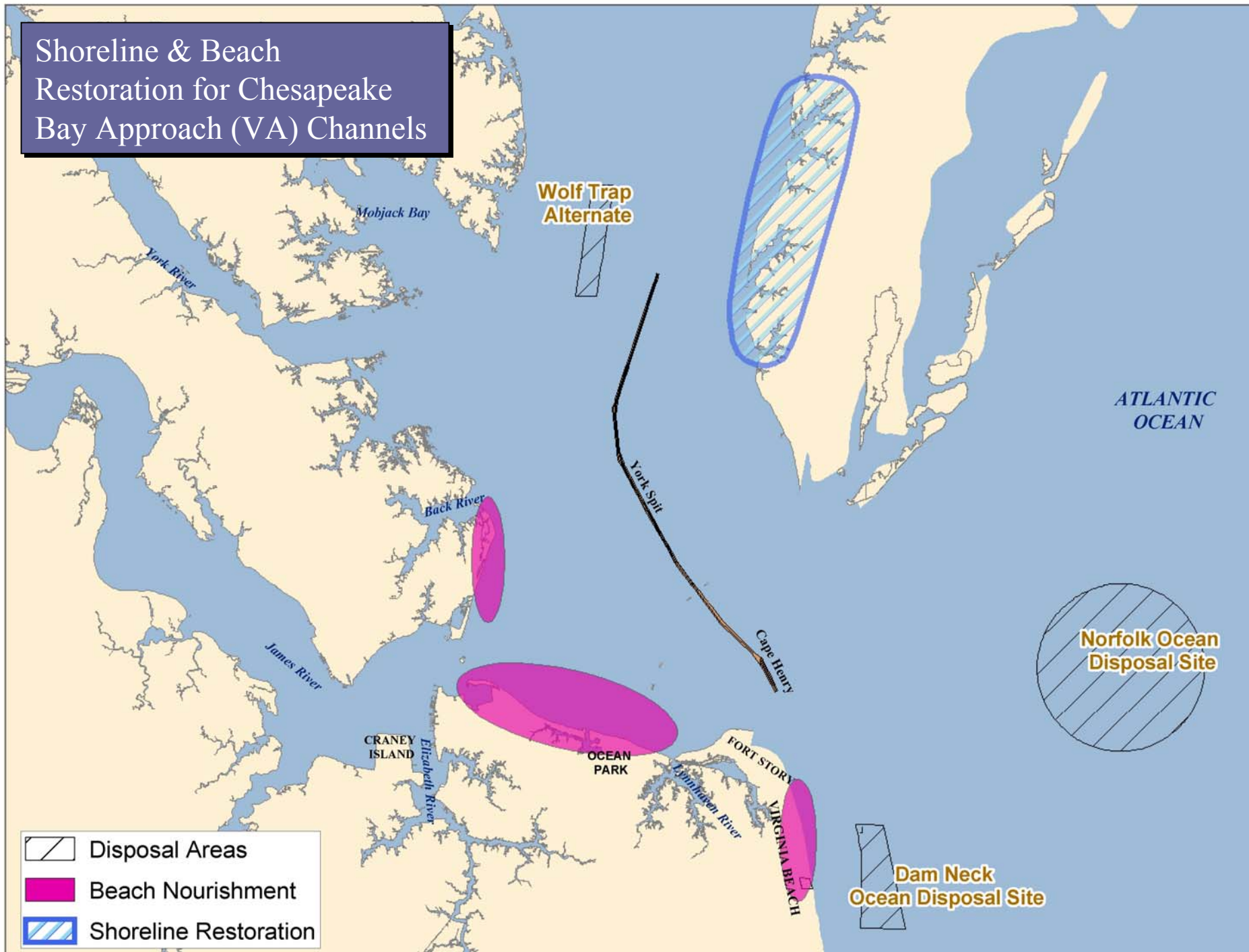




# Shoreline Restoration for C&D Approach & Chesapeake Bay Approach (MD) Channels



# Shoreline & Beach Restoration for Chesapeake Bay Approach (VA) Channels

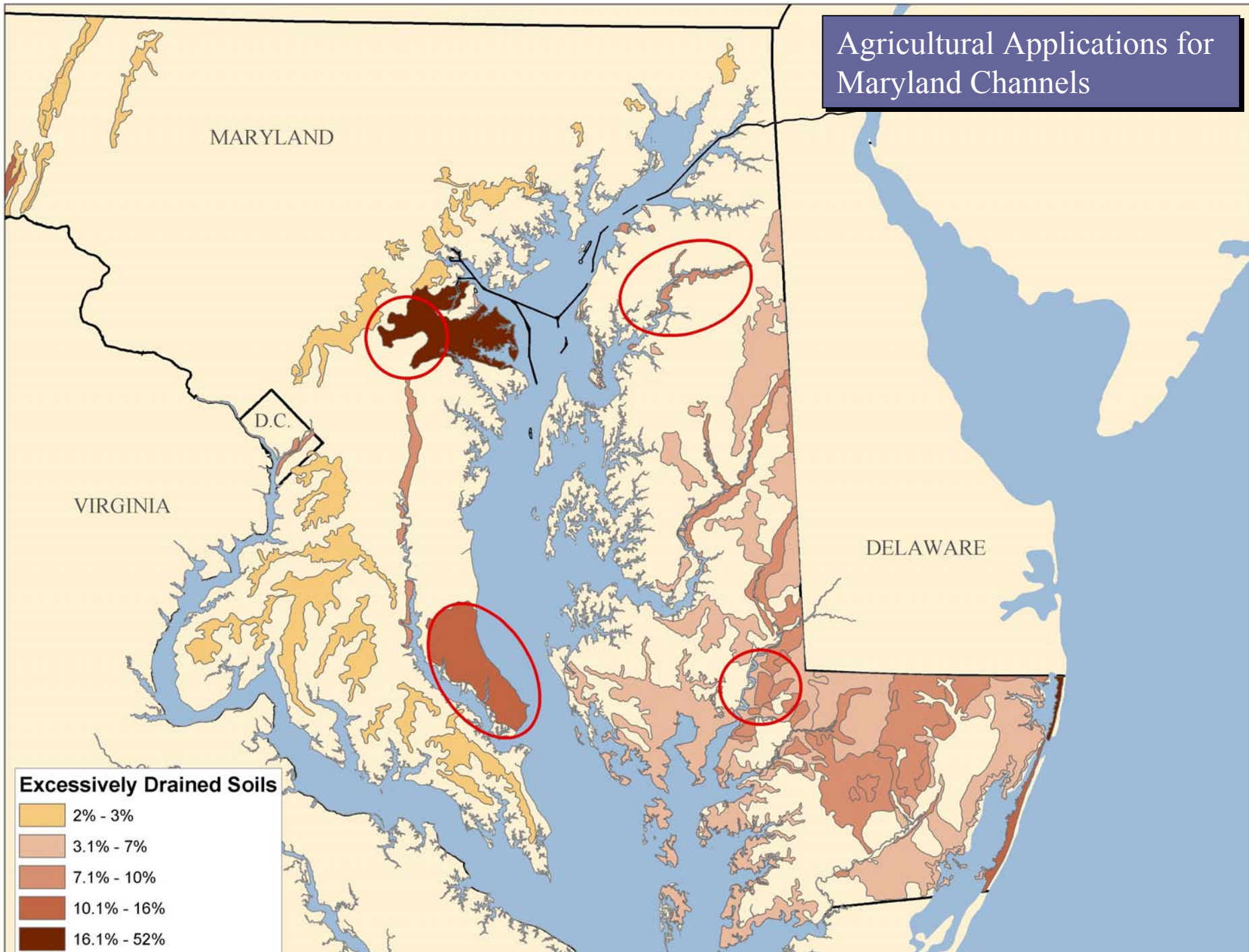


## Wetlands Restoration for Maryland & Virginia Channels





## Agricultural Applications for Maryland Channels

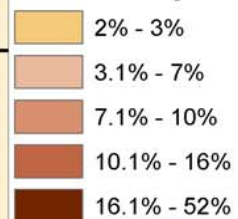


# Agricultural Applications for Virginia Channels

VIRGINIA

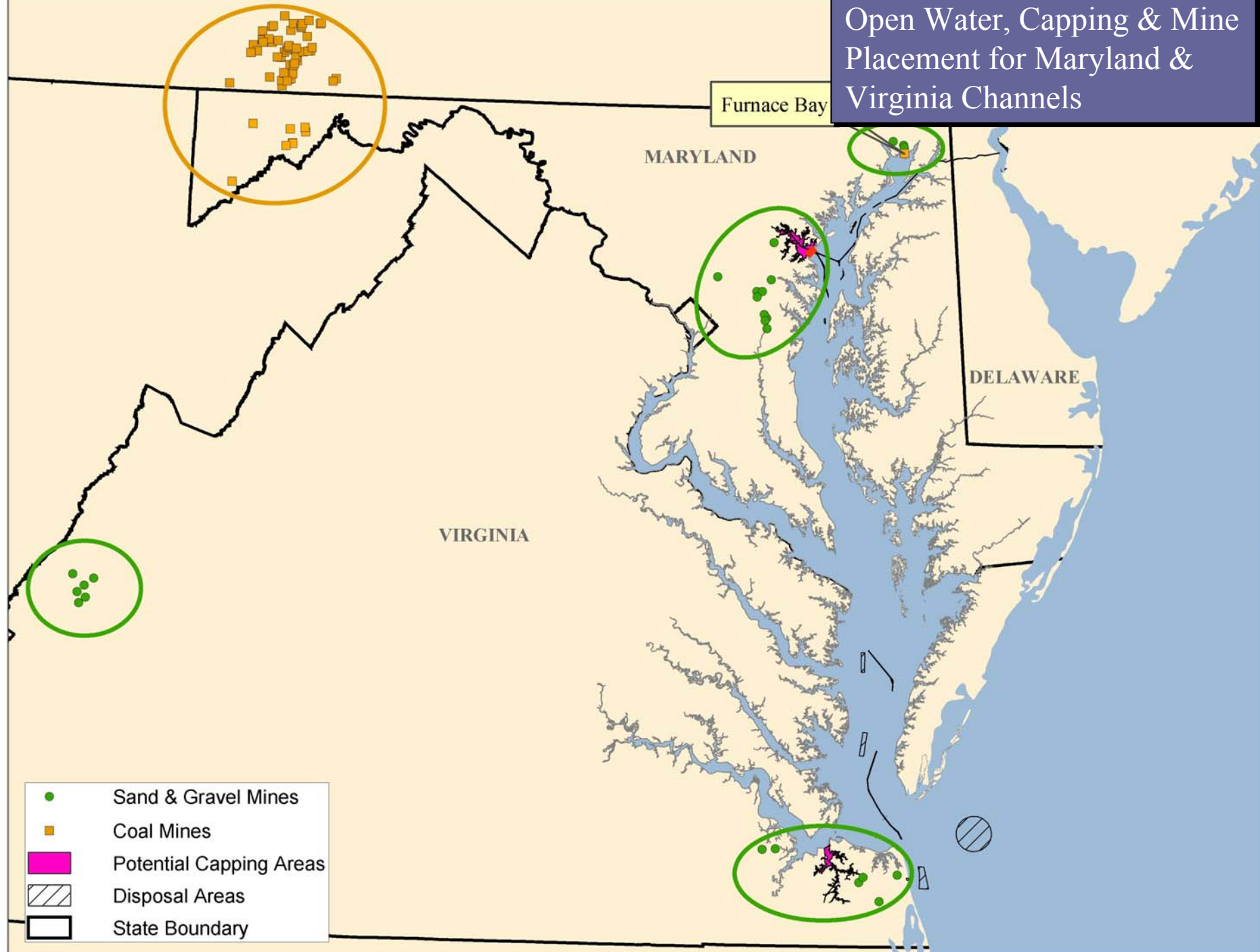
ATLANTIC  
OCEAN

## Excessively Drained Soils





# Open Water, Capping & Mine Placement for Maryland & Virginia Channels



# *Screening Criteria Approach*

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- Each Alternative will be screened for
  - Environmental Factors using the BEWG Criteria
  - Technical Feasibility
  - Cost
  - Capacity
  - Time to achieve Environmental Benefit
  - Risk

# *Schedule*

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- Receive comments on Alternatives Presentation from BEWG 27 Jan 04
- Alternatives Presentation to CAC Feb 04
- Screening Evaluation for BEWG Mar 04
- Screening Evaluation for CAC Apr 04
- Draft DMMP & Tiered EIS Oct 04
- Final DMMP & Tiered EIS Apr 05
- Record of Decision May/Jun 05